

CLAIMS

1. An electric power steering apparatus, comprising:
a steering assist motor for assisting operation of a steering mechanism by turning a steering member; and
a supporting mechanism for supporting said motor on a stationary member,

wherein the supporting mechanism has a releasing mechanism for releasing support of the motor on the stationary member by impact energy applied to the motor.

2. The electric power steering apparatus according to Claim 1, wherein the supporting mechanism comprises a projection provided at one of the motor and the stationary member and a recess provided at the other of the motor and the stationary member, the projection being inserted into the recess, and the releasing mechanism comprises a movement permitting portion for permitting relative movement of the projection in the recess and a slip-off portion from where the projection slips off the movement permitting portion.

3. The electric power steering apparatus according to Claim 2, wherein the releasing mechanism has an elastic member for pushing the projection provided at one of the motor and the stationary member outward at a position of the slip-off portion.

4. The electric power steering apparatus according to Claim 3, wherein the projection is configured as an external thread and the recess is configured as a through bore.

5. The electric power steering apparatus according to Claim 4, wherein the motor has a rotor arranged so that a rotational center thereof intersects an axis of a steering shaft joined to the steering member and a cylindrical motor housing for supporting said rotor, and a peripheral face of said motor housing is provided with an impact energy receiver for applying rotational force to the motor housing by the impact energy.

6. The electric power steering apparatus according to Claim 3, wherein the motor has a rotor arranged so that a rotational center thereof intersects an axis of a steering shaft joined to the steering member and a cylindrical motor housing for supporting said rotor, and a peripheral face of said motor housing is provided with an impact energy receiver for applying rotational force to the motor housing by the impact energy.

7. The electric power steering apparatus according to Claim 2, wherein the projection is configured as an external thread and the recess is configured as a through bore.

8. The electric power steering apparatus according to Claim

7, wherein the motor has a rotor arranged so that a rotational center thereof intersects an axis of a steering shaft joined to the steering member and a cylindrical motor housing for supporting said rotor, and a peripheral face of said motor housing is provided with an impact energy receiver for applying rotational force to the motor housing by the impact energy.

9. The electric power steering apparatus according to Claim 2, wherein the motor has a rotor arranged so that a rotational center thereof intersects an axis of a steering shaft joined to the steering member and a cylindrical motor housing for supporting said rotor, and a peripheral face of said motor housing is provided with an impact energy receiver for applying rotational force to the motor housing by the impact energy.

10. The electric power steering apparatus according to Claim 1, wherein the motor has a rotor arranged so that a rotational center thereof intersects an axis of a steering shaft joined to the steering member and a cylindrical motor housing for supporting said rotor, and a peripheral face of said motor housing is provided with an impact energy receiver for applying rotational force to the motor housing by the impact energy.

11. An electric power steering apparatus, comprising:
a steering shaft joined to a steering member;

a shaft housing for accommodating said steering shaft;
a steering assist motor for assisting operation of a steering mechanism joined to the steering shaft, the steering assist motor having a rotor arranged so that a rotational center thereof intersects an axis of the steering shaft and a cylindrical motor housing for supporting said rotor; and

a supporting mechanism for supporting one end portion of the motor housing on the shaft housing,

wherein the supporting mechanism comprises:

a projection provided at a peripheral position of the motor housing;

an arc-shaped groove provided at the shaft housing, into which the projection is inserted so as to be movable in a longitudinal direction thereof; and

a slip-off portion from where the projection slips off the arc-shaped groove when the projection moves.